Amendment to the Claims:

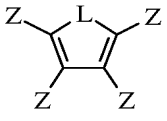
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

WHAT IS CLAIMED IS:

1. (currently amended) A compound comprising i) one or more dienophile groups (A-functional groups), ii) one or more ring structures comprising two conjugated carbon-to-carbon double bonds and a leaving group L (B-functional groups), and iii) one or more chemically bound mesogenic poragen forming moieties, characterized in that the A-functional group is capable of reaction under cycloaddition reaction conditions with the B-functional group to thereby form a low dielectric constant, cross-linked, polyphenylene polymer.

2. (original) A compound according to claim 1 corresponding to the formula,



(I)

wherein L is -O-, -S-, -N=N-, -C(O)-, -(SO_2)-, or –OC(O)- ;

Z is independently in each occurrence hydrogen, halogen, an unsubstituted or inertly substituted hydrocarbyl group, Z"X, or two adjacent Z groups together with the carbons to which they are attached form a fused aromatic ring,

Z" is a divalent derivative of an unsubstituted or inertly substituted hydrocarbyl group joining two or more structures of formula (I), or joining an A-functionality, a bound mesogenic poragen forming moiety, or a moiety comprising both an A-functionality and a bound mesogenic poragen forming moiety,

X is a second structure of formula (I), a moiety comprising A-functionality, a group comprising a mesogenic poragen forming moiety, or a moiety comprising both an A-functionality and a mesogenic poragen forming moiety

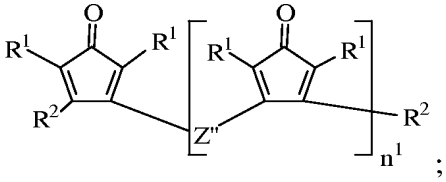
and in at least one occurrence, Z is a Z"X group of the formula: –Z"-C≡CM; or

in at least one occurrence, Z is a Z"X group of the formula: –Z"-C≡CR and in at least one other occurrence Z is a Z"X group comprising a mesogenic poragen forming moiety; wherein,

M is independently each occurrence a bound mesogenic poragen forming moiety; and

R is independently each occurrence selected from the group consisting of hydrogen, C_{1-4} alkyl, C_{6-60} aryl, and C_{7-60} inertly substituted aryl groups.

3. (original) A compound according to claim 2 corresponding to the formula:



;

wherein R^1 independently each occurrence is C_{6-20} aryl, C_{6-20} inertly substituted aryl, or R^2;

R^2 is C_{6-20} aryl- substituted ethynyl, -Z"-M, C_{6-20} aryl, or C_{6-20} inertly substituted aryl;

Z" is a divalent linking group, and

M is a bound mesogenic poragen forming moiety,

n^1 is a number greater than or equal to zero;

with the proviso that in at least one occurrence R^1 or R^2 is C_{6-20} aryl- substituted ethynyl, and in at least one other occurrence R^1 or R^2 is -Z"-M.

4. (original) A compound according to claim 3 wherein

R^1 and R^2 groups are independently selected from the group consisting of: C_{6-20} aryl- substituted ethynyl, -Z"-M, -C≡C-M, C_{6-20} aryl, and inertly substituted C_{6-20} aryl;

Z" is selected from the group consisting of: phenylene, biphenylene, phenyleneoxyphenylene, ethynylene, -phenylene-C_{1-12} alkylene-, -phenylene-O-C_{1-12} alkylene-, -phenylene-C_{1-12} alkylene-O-, -phenylene-O-C_{1-12} alkylene-O-, -phenylene-CO-,

-phenylene-O-, -phenylene-OC(O)-, -phenylene-C(O)O-, -phenylene-C(O)-NH-,

-phenylene-NH-C(O)-, -phenylene-OC(O)O-, -phenylene-NHC(O)O-, -phenylene-OC(O)NH-, -phenylene-NHC(O)NH-, -phenylene-C_{1-12} alkylene-C(O)O-, -phenylene-C_{1-12} alkylene-C(O)NH-, -phenylene-C_{1-12} alkylene-OC(O)-, -phenylene-C_{1-12} alkylene-OC(O)NH-, -phenylene-C_{1-12} alkylene-NHC(O)O-, -phenylene-C_{1-12} alkylene-OC(O)O-, -phenylene-C_{1-12} alkylene-NHC(O)NH-, -phenylene-O-C_{1-12} alkylene-C(O)O-, -phenylene-O-C_{1-12} alkylene-C(O)NH-, -phenylene-O-C_{1-12} alkylene-OC(O)-,-phenylene-O-C_{1-12} alkylene-OC(O)NH-, -phenylene-O-C_{1-12} alkylene-NHC(O)O-, -phenylene-O-C_{1-12} alkylene-OC(O)O- and -phenylene-O-C_{1-12} alkylene-NHC(O)NH-; and

M is a discotic mesogenic poragen forming moiety.

5. (currently amended) A cross-linked polymer formed by curing a composition comprising a compound according to claim 1~~any one of claims 1-4~~.

6. (original) A porous matrix formed by removing of self-assembled poragens formed from bound mesogenic poragen forming moieties in the cross-linked polymer of claim 5.